REMARKS

Reconsideration of this patent application is respectfully requested in view of the following remarks.

It is respectfully pointed out that the present invention was commonly owned at the time this invention was made. This is in response to paragraph 2 on Page 2 of the Office Action.

On Page 3 of the Office Action, the Patent Examiner has rejected claims 1-7 under 35 U.S.C. 103(a) as being unpatentable over *Osakabe et al (U.S. Patent No. 5,448,562)* and *Tanaka et al (U.S. Patent No. 5,631,850)*, in view of *Fuhrmann (U.S. Patent No. 7,583,692)*.

This rejection is respectfully traversed.

The present invention relates to a system for transmitting data in a serial bidirectional bus with a control device comprising a send and receiving unit for data fields combined into a data frame, and with bus subscribers that comprise an evaluation circuit for reading in and reading out data fields in data frames, with at least the bus subscriber at the bus end opposite of the control device comprising a send device for a data frame.

The present invention has as an object to provide a system for data transmission in a serial bidirectional bus of the kind mentioned above in such a way that the system is characterized not only by the simplicity of the data transmission but also by its low constructional complexity. A high data transmission rate is also to be ensured.

This object is achieved by the present invention in such a way that at least the bus subscriber at the end of the bus comprises a control stage which is activated by a received data frame and which triggers the send device depending on the receipt of a data frame within the terms of the transmission of a data frame for at least the data fields of the bus subscribers.

More particularly, each bus subscriber 2, 3, and 4 comprises a control stage 13 for a send device 12 for sending a data frame 11 for the own data fields and the data fields of the preceding bus subscribers, so that a data transmission is still at least partly possible during a failure of a bus subscriber 3 or 4. In such a case, the bus subscriber 2 or 3 situated directly in front of the failed bus subscriber 3 and 4 will send a respective data frame to the control device 1.

Specifically, the present invention is directed to a system

for transmitting data in a serial bidirectional bus with a control device comprising a send and receiving unit for data fields combined into a data frame, and with bus subscribers connected in series which comprise an evaluation circuit for reading in and reading out data fields in data frames, with at least the bus subscriber at the bus end opposite of the control device comprising a send device for a data frame, wherein at least the bus subscriber (4) at the end of the bus comprises a control stage (13) which is activated by a received data frame (6) sent by the control device (1) and triggers the send device (12) depending on the receipt of a data frame (6) for sending a data frame (11) in the direction of the control device (1) whereas the sent data frame (11) contains at least data fields (14, 15, 16) for all bus subscribers (2, 3, 4) and said data frame (11) is handed over from one bus subscriber to the next bus subscriber.

On Page 4 of the Office Action, the Patent Examiner has stated that "Osakabe and Tanaka do not disclose sending a data frame in the direction of the control device (1) whereas the sent data frame (11) contains at least data fields (14, 15, 16) for all bus subscribers (2,3,4) and the data frame (11) is handed over from one bus subscriber to the next bus subscriber."

Then, on Page 4 of the Office Action, the Patent Examiner contends that "Fuhrmann discloses sending a data frame in the direction of the control device (1) whereas the sent data frame (11) contains at least data fields (14,15,16) for all bus subscribers (2,3,4) and the data frame (11) is handed over from one bus subscriber to the next bus subscriber (figure 1m wherein nodes 1, 2, and 3 are bus subscribers 2, 3, 4 and t1, t2 and t3 include data fields (14,15,16), abstract, wherein the guardian includes the control device (1))."

This contention is respectfully traversed as follows.

The Patent Examiner asserts that *Fuhrmann* discloses a data frame having data fields for all bus subscribers and that a frame is sent from one subscriber to the next one. In fact, *Fuhrmann* fails to teach or to suggest this subject matter.

Fuhrmann does not disclose the structure of a data frame at all. FIG. 1 of *Fuhrmann* shows the bus timing and nothing else. It is clear that only one node may send data on the bus at a time (as everything else would lead to a bus collision that has to be avoided). This is shown in FIG. 1 by the transmission slots that start at different times (t1, t2, t3) for each node. I.e., node 1 may send data during transmission slot starting at time t1, and

node 2 may send data during transmission slot starting at time t2, and so on. In between, every node may of course listen on the bus and receive data (if the data is addressed for the node), which is shown by the receive windows. *Fuhrmann* discusses in detail the timing of the data communication over the bus (FIG. 3). But *Fuhrmann* mentions only "frames" in general (FIG. 3 and 4) but does not go into detail regarding the structure of the frames.

Furthermore, it cannot be assumed from FIG. 1 that a data frame in *Fuhrmann* is handed over from one bus subscriber to the next bus subscriber, as is claimed in the present invention. This is because FIG. 1 shows only the timing of send and receive time windows and not at all which, how and when (a node may but does not have to send data during his transmission slot) data frames are sent over the bus.

Based on the above arguments, the present invention clearly distinguishes over the teachings of *Osakabe* and *Tanaka* in view of *Fuhrmann*.

In conclusion, the present invention, and all the claims, are firmly believed to be patentable over all the prior art applied by the Patent Examiner under 35 U.S.C. 103. Withdrawal

of this ground of rejection is respectfully requested.

A prompt notification of allowability is respectfully requested.

Respectfully submitted,
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